

REMARKS

Reconsideration of the application as amended is requested.

Claims 1-9, 12, and 18-20 were previously cancelled. Claims 16 and 17 are cancelled in this amendment. Claim 21 has been amended to recite the orientations of elements a) through e) within the recombinant nucleic acid. Support for this amendment appears throughout the application, and specifically in the diagram at the top of page 14; at page 16, line 24 to page 17, line 2; at page 18, lines 20-25; and in Figure 6. Claim 21 has been further amended to recite the sequences of the transit peptide of element b). Support for this amendment appears at page 63, lines 1-18. Element c) of claim 21 has been amended to recite the sequence of the starch-encapsulating region of the maize starch synthase of SEQ ID NO:21. Support for this amendment appears at page 59, lines 20-22. No new matter has been added by virtue of the amendments to the claims.

Rejections Pursuant to 35 U.S. C. § 112, Second Paragraph

Claims 10-11, 13-15, and 21 stand rejected under § 112, second paragraph as being indefinite in the recitation of “a nucleotide sequence encoding a transit peptide,” “a nucleic acid encoding a starch-encapsulating region,” and “a nucleic acid encoding the payload polypeptide.” The Examiner takes the position that the sequences of each region is required. This rejection is respectfully traversed.

Without acquiescing in the Examiner’s position, Applicants have amended claim 21 to recite specific sequences of transit peptides and the starch-encapsulating region. The application lists numerous payload polypeptides: for example; at page 15, lines 4-16, prolactin, serum albumins (including bovine, ovine, equine, avian, and human serum albumins), somatotropin, epidermal growth factor, insulin-like growth factor I, insulin-like growth factor II, fibroblast growth factor, transforming growth factor beta, nerve growth factor, platelet-derived growth factor, rHuIGF-I, rHuIGF-II, delta-7 recombinant porcine somatotropin, insulin A and B chains, beta endorphin, urogastrone, beta globin, myoglobin, human growth hormone, angiotensin, proteases, beta-galactosidase, and cellulases. Phytase is identified at page 60, lines 3-4 as being a suitable payload polypeptide. Sequences of the payload polypeptides identified above are well known and have been in the public domain for many years. In addition, the application identifies chained amino acid sequences suitable as payload polypeptides at page 60, lines 4-10.

Determining payload polypeptide sequences requires no more than a routine search of sequence databases such as GENBANK and are thus well within the level of ordinary skill in biotechnology.

Withdrawal of the rejection of claims 10-11, 13-15, and 21 under § 112, second paragraph is therefore respectfully requested.

Rejections Pursuant to 35 U.S. C. § 112, First Paragraph

Claims 10-11, 13-15, and 21 stand rejected under § 112, first paragraph as containing subject matter which was not described in such a way as to reasonably convey to those skilled in the art that the Applicants had possession of the claimed invention. The Examiner opines that sequences of "a nucleotide sequence encoding a transit peptide," "a nucleic acid encoding a starch-encapsulating region," and "a nucleic acid encoding the payload polypeptide" are required. This rejection is respectfully traversed.

As stated above, claim 21 has been amended to recite sequences of the transit peptides and starch-encapsulating region, and those of ordinary skill are well able to determine sequences of payload polypeptides through routine searching. Withdrawal of the rejection of claims 10-11, 13-15, and 21 under § 112, first paragraph is therefore respectfully requested.

In light of the amendments and arguments presented herein, Applicants submit that all of the rejections contained in the Office Action dated September 23, 2005 have been overcome, and that the application is in condition for allowance. Should the Examiner wish to discuss the application further, he is invited to telephone the undersigned. If any additional fees are due with respect to this submission, authorization is hereby given to charge such fees, or to credit any overpayment, to Deposit Account No. 02-1197.

Respectfully submitted,

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